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by Melissa Moyser and Anne Milan

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Fertility rates and labour force participation among women in Quebec and Ontario

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Overview of the study

Using data from the Canadian Vital Statistics Birth Database an[illegible] the Labour Force Survey (LFS), this study examines the relationship between fertility rates and labour force participation among women aged 15 to 44 in Ontario and in Quebec between 1996 and 2016, two provinces that followed different paths with respect to parental leave benefits and affordable child care over the past two decades.

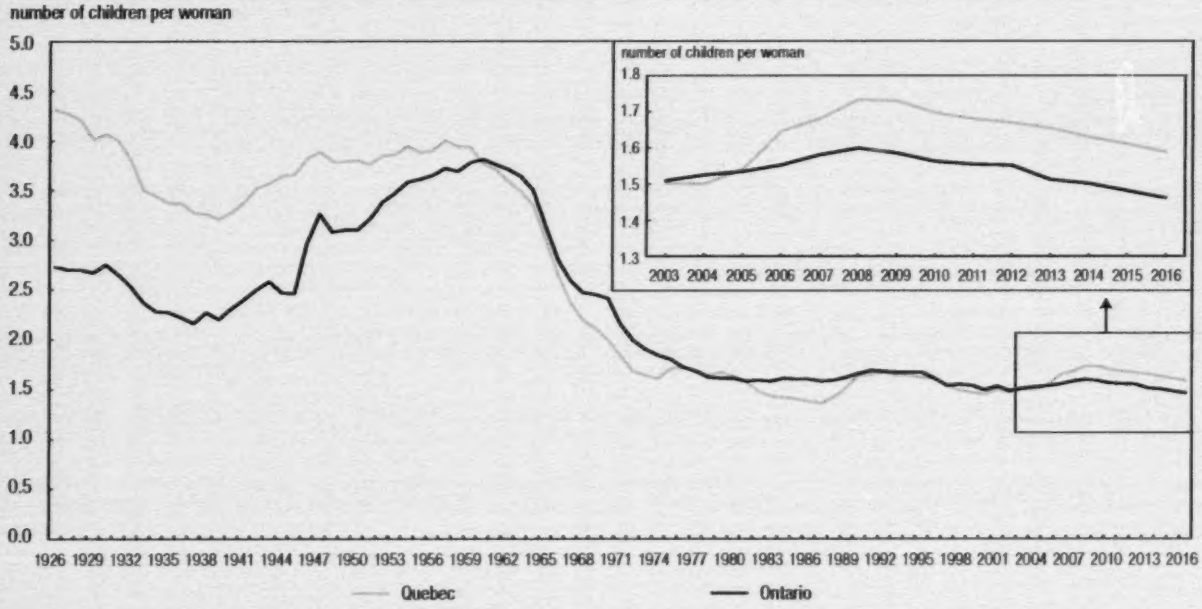
- After four decades of similarity, fertility rates have been slightly higher in Quebec than in Ontario since 2005. In 2016, Quebec's total fertility rate was 1.59 children per woman, while Ontario's was 1.46.
- The difference was mostly driven by women in their twenties, who tend to have more children in Quebec than in Ontario. This is partly because the proportion of women in their twenties who are in a couple is higher in Quebec (39%, versus 28% in Ontario in 2016).
- As fertility rates increased in Quebec, the labour force participation of women aged 15 to 44 also increased, exceeding that of women in Ontario after 2003. In 2016, the participation rate of women was 81% in Quebec, compared with 75% in Ontario.
- Most of the relative increase in female labour force participation in Quebec occurred among women with young children. Between 1996 and 2016, the labour force participation rate of women whose youngest child was under the age of 3 increased by nearly 20 percentage points in Quebec, compared with a 4 percentage point increase in Ontario. The Quebec–Ontario difference was smaller among women without children under the age of 13.
- Changes in the composition of the population of women aged 15 to 44 and differences in real wage growth for this population do not explain the divergent trends observed in female labour force participation in Quebec and Ontario after 1996. At the same time, the costs associated with child care and housekeeping services grew less in Quebec than in Ontario over the period.

Introduction

Historically, higher fertility rates have been associated with lower female labour force participation (and vice versa) in industrialized countries.[1] This negative correlation is generally interpreted as evidence of the incompatibility of motherhood and paid work in circumstances where women remain more involved in housework and child care activities despite their increased labour force participation.[2]

Since the 1980s, the inverse relationship between fertility rates and female labour force participation has weakened, even becoming positive in the United States and Northern Europe.[3] Based on cross-national studies, scholars have attributed these findings to changes in social context that facilitate the combination of earning and caring roles among women, including more positive attitudes toward working mothers and family-related policies such as financial transfers to parents, state-mandated parental leave, and greater access to affordable, high-quality child care.[4]

Chart 1
Total fertility rate, Quebec and Ontario, 1926 to 2016



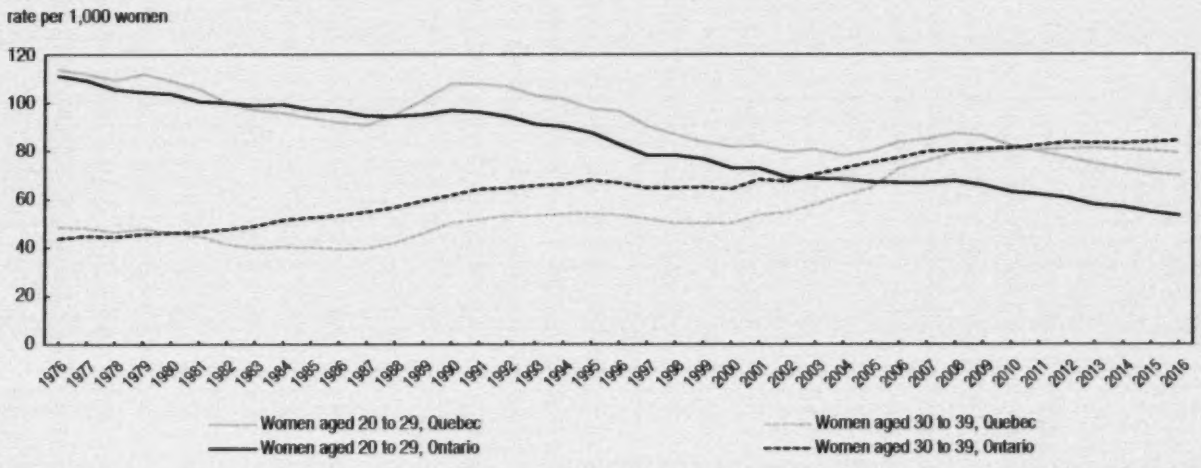
Note: Births to mothers whose age is unknown were prorated.
Source: Statistics Canada, Canadian Vital Statistics (Birth Database), 1926 to 2016, and Demography Division, Demographic Estimates Program.

According to economic theories of fertility, the decision to have a child is made by rational actors who weigh the economic costs and benefits of doing so, subject to an income constraint and preferences for children.[5] All else being equal, any reduction in the cost of children, or any increase in income, will increase the desire to have children.[6] It follows that family-related policies like cash child/family allowances, tax relief for parents, parental leave benefits, and subsidies for child care are expected to increase fertility rates. At the same time, parental leave benefits and affordable, high-quality child care tend to increase female labour force participation, as mothers often retain ultimate responsibility for the care of their children.[7] They are the ones who typically make arrangements for child care and then pay for it with their own earnings,[8] and/or adjust their work hours and schedules or disrupt their employment to meet the needs of their children.[9]

In Canada, family and social policy is largely determined at the provincial level. Since the mid-1990s, the two largest Canadian provinces (Quebec and Ontario) followed different paths with respect to parental leave benefits and affordable child care. Beginning in 1997, Quebec implemented Scandinavian-inspired family policies, the centerpiece of which is a universal, low-fee child care program for preschool-age children. That program distinguishes Quebec from Ontario and the rest of Canada, where there is a shortage of regulated childcare spaces and subsidies are available exclusively to low-income families.[10] Quebec also introduced a parental leave benefit program for its residents in 2006.[11] Elsewhere in Canada, parental leave benefits continue to be administered through the Employment Insurance program. Quebec has lower eligibility criteria for parental leave benefits[12] and a higher maximum for insurable income than Ontario and the rest of Canada.[13]

Using data from the Canadian Vital Statistics Birth Database and the Labour Force Survey, this study explores the notion that fertility rates and female labour force participation may be positively correlated in social contexts where motherhood and paid work are more compatible.

Chart 2
Fertility rate for women aged 20 to 29 and 30 to 39, Quebec and Ontario, 1976 to 2016



Note: Births to mothers whose age is unknown were prorated.
Source: Statistics Canada, Canadian Vital Statistics (Birth Database), 1976 to 2016, and Demography Division, Demographic Estimates Program.

This is accomplished by tracking the evolution of fertility rates and female labour force participation over two decades in the provinces of Quebec and Ontario. Quebec was chosen because its family-related policies are unique within Canada. Ontario was chosen as the comparison group instead of another province or the rest of Canada because of its similarity to Quebec in terms of population size and composition, geography and economy. In addition to being Canada's two most populous provinces, Quebec and Ontario are centrally located neighbours and share an economic base as important exporters of manufactured goods to the United States.[14] Quebec and Ontario are also demographically similar with respect to age structure and representation of groups known to have distinctive patterns of fertility and labour force participation, such as Aboriginal people and immigrants.

Women in Quebec have higher fertility rates than women in Ontario

Fertility rates in Canada have been on a downward trend for the past century, with the notable exception of the baby boom that occurred from 1946 to 1965 (Chart 1). Since the early 1970s, the total fertility rate (the average number of children per woman) has consistently been below the level at which couples have a sufficient number of children to replace themselves (i.e., the "replacement level" of 2.1).[15] In 2016, the total fertility rate in Canada was 1.54 children per woman. The total fertility rate was higher in Quebec at 1.59 children per woman than the national average, and lower in Ontario at 1.46 children per woman than the national average.

Since 2005, and for the first time since the late 1950s (with a brief exception between 1977 and 1980), the fertility rate was higher in Quebec than in Ontario. This reflects a historical pattern that prevailed until the 1960s, at which time the total fertility rate in Quebec plummeted. Although the total fertility rate declined at the same time in Ontario, it fell from a higher point to a lower point in Quebec during the period. The lowest total fertility rate ever observed in Quebec occurred in 1987 at 1.36 children per woman. In Ontario, the lowest point was observed in 2016, at 1.46 children per woman.

Younger women drive Quebec's higher fertility rates relative to Ontario

Since the collection of vital statistics began in Canada in the 1920s, fertility rates have been highest for women in their twenties. A new national pattern of age-specific fertility emerged in 2008, when the fertility rate of women in their thirties slightly exceeded that of women in their twenties. This was part of a long-term trend of declining fertility among

women in their twenties (which had been occurring since the mid-1960s) and increasing fertility among women in their thirties (which had been occurring since the 1980s).[16] Women are delaying childbearing to older ages, with those aged 30 and over having more children now than previously. It follows that the decline in the total fertility rate is largely attributable to lower fertility rates among women under 30.[17]

These trends in age-specific fertility rates did not occur at the same pace in Quebec and Ontario (Chart 2). The increase in the fertility rates of women in their thirties was both less steep and less consistent in Quebec than in Ontario. The fertility rates of women in their twenties also decreased at a slower pace throughout the 1990s in Quebec than in Ontario, resulting in higher fertility rates in Quebec. The fertility rate of women in their twenties has been on a downward trend in Ontario for at least the past four decades while in Quebec, there were periods of increase in both the 1990s and mid-2000s. For these reasons, the fertility rates of women in their thirties surpassed that of women in their twenties eight years later in Quebec than in Ontario (2011 versus 2003).

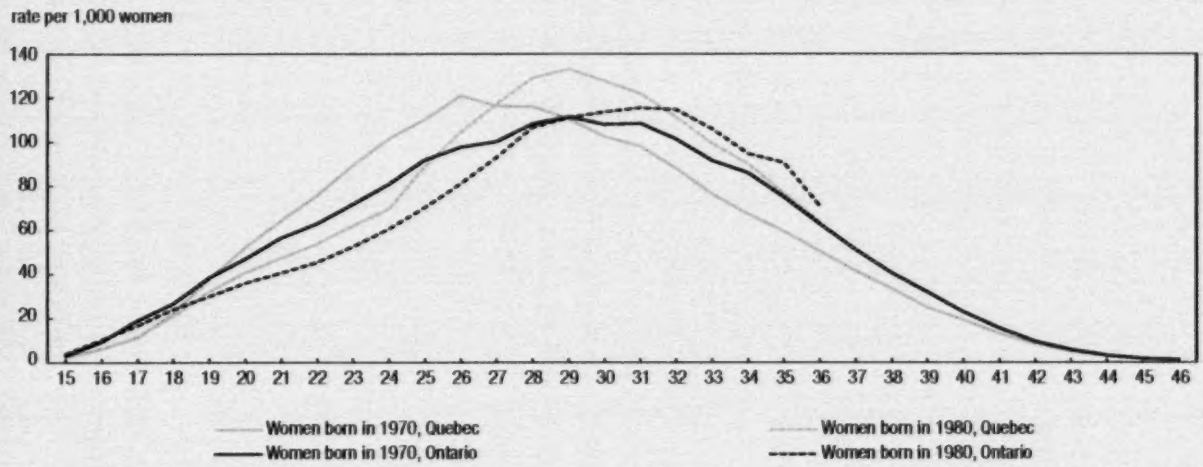
These findings indicate that women in their twenties largely account for the recent increase in the total fertility rate in Quebec relative to Ontario. That finding is confirmed through a counterfactual exercise in which Quebec's total fertility rate is calculated using the age-specific fertility rates of Ontario women in their twenties in place of the age-specific fertility rates of Quebec women in their twenties. Doing so reveals that Quebec's total fertility rate would have been 1.42 in 2016 (instead of 1.59)—nearly equivalent to Ontario's total fertility rate (1.46).

Women in Quebec are having more children younger than women in Ontario

A drawback of the total fertility rate is that it is influenced by changes in the tempo and timing of childbearing. One way of separating changes in the timing of childbearing from changes in the quantity of childbearing involves the examination of the fertility rate by age of different cohorts of women whose fertility has peaked. In this section, two cohorts are examined: the fertility rate by age for women born in 1970 (aged 46 in 2016), and the fertility rate for women who were born in 1980 (aged 36 in 2016).

The age–fertility patterns of women born in 1970 followed a similar pattern in both provinces, with some differences (Chart 3). For this cohort, peak fertility occurred earlier in Quebec than in Ontario, but fertility was higher at older ages in Ontario. This explains why there was little

Chart 3
Fertility rate by age for selected birth cohorts, Quebec and Ontario



Note: Births to mothers whose age is unknown were prorated.
Source: Statistics Canada, Canadian Vital Statistics (Birth Database), birth cohorts 1970 and 1980, and Demography Division, Demographic Estimates Program.

difference in the total fertility rates of Ontario and Quebec women during the late 1990s and early 2000s.

Among women born in 1980, peak fertility occurred at older ages in both provinces but was higher in Quebec, particularly at ages 28 and 29. Ontario women born in 1980 had slightly higher fertility rates in their thirties than their Quebec counterparts. The relative increase in Quebec's total fertility rate after the mid-2000s means that women in their late twenties in that province had a greater number of children than their Ontario counterparts.

More women in their twenties are part of a couple in Quebec than in Ontario

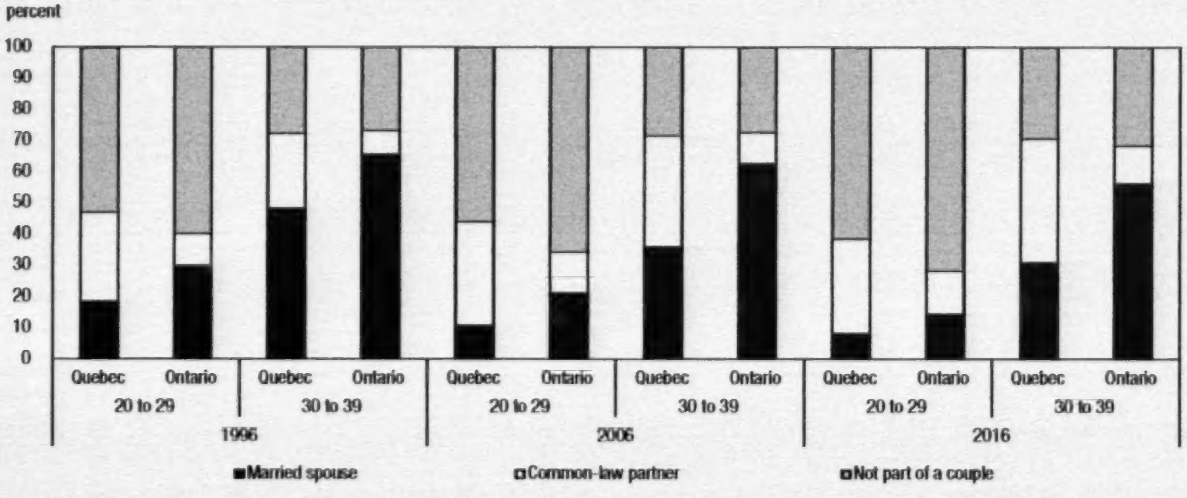
The recent relative increase in the fertility rate of Quebec women was driven by women in their twenties. Therefore, it is worthwhile to consider whether there have been compositional shifts in this demographic group with respect to conjugal and marital status in Quebec and Ontario. A greater proportion of women in their twenties were in a couple in Quebec than Ontario in both 1996 and 2016 (Chart 4).[18] That disparity grew over time, such that 39% of Quebec women in their twenties were part of a couple in 2016, compared with 28% of Ontario women.[19] Although the conjugal status of mothers may change over time, these findings suggest that the higher fertility rates of women in their twenties in Quebec, compared with their counterparts in Ontario, partly reflects their greater likelihood of being in a couple.

Why are more women in their twenties in couples in Quebec than in Ontario? Since 1996, the proportion of married women decreased in both provinces, but common-law unions remain more ubiquitous in Quebec than in Ontario. In fact, the vast majority of Quebec women in their twenties who were part of a couple in 2016 were in a common-law union (79%) as opposed to being married (21%). In Ontario, just over half (51%) of coupled women in their twenties were married.

It may therefore be that the greater social acceptance of common-law unions in Quebec, relative to Ontario, facilitates family formation among young adults, possibly because they do not carry the same presumed prerequisites (like stable economic prospects) as marriage.[20] Specifically, common-law unions are widely accepted and viewed as an alternative to marriage in Quebec. Elsewhere in Canada, however, common-law unions are often viewed as a prelude to marriage and therefore selective of individuals who are economically less ready for marriage in terms of education and income.[21]

Previous research has shown that common-law unions have a different meaning and character in Quebec, compared with other provinces. For example, the formation of first unions tends to occur at younger ages in Quebec than in the rest of Canada,[22] and common-law unions

Chart 4
Distribution of women aged 20 to 29 and 30 to 39 by conjugal status, Quebec and Ontario, 1996 to 2016



Source: Statistics Canada, Census of Population, 1996, 2006 and 2016.

are preferred over marriage as first unions in Quebec.[23] Common-law unions also tend to have higher fertility rates and greater stability in Quebec than in other provinces in terms of union duration.[24]

Women in Quebec have been participating in the labour market more than women in Ontario since 2003

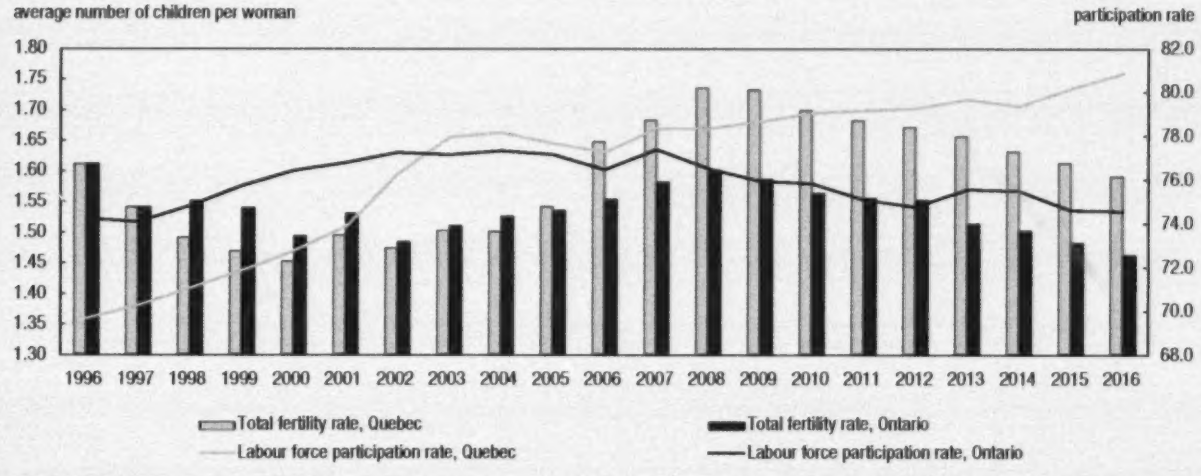
Since the 1960s, the labour force participation of women in Canada has increased. Most of that growth has occurred among women in couples, particularly those with young children, as it was once common for women to cease working after childbearing—if they had not already done so upon marriage. Even today, mothers continue to have lower rates of labour force participation than women with no children (as well as lower rates than fathers), particularly when their children are infants and toddlers. In 2016, 71% of women aged 15 to 44 with a child under the age of 3 in the household participated in the labour market, compared with 77% of their counterparts with no children or with older children.

Given that children are associated with lower rates of labour force participation among women, did the post-2005 increase in fertility rates in Quebec, relative to Ontario, coincide with a decrease in the labour force participation of women in that province?

From the beginning of the modern Labour Force Survey in 1976, the labour force participation of women under the age of 45 was lower in Quebec than in Ontario. However, female labour force participation increased at a faster pace in Quebec than in Ontario, particularly after 1996 (Chart 5). Specifically, the labour force participation of women increased by 19 percentage points in Quebec (from 51% to 70%) and by 14 percentage points in Ontario (from 60% to 74%) between 1976 and 1996. After 1996, female labour force participation in Quebec rose by another 11 percentage points (from 70% to 81%), while female labour force participation in Ontario stalled (at around 75%).

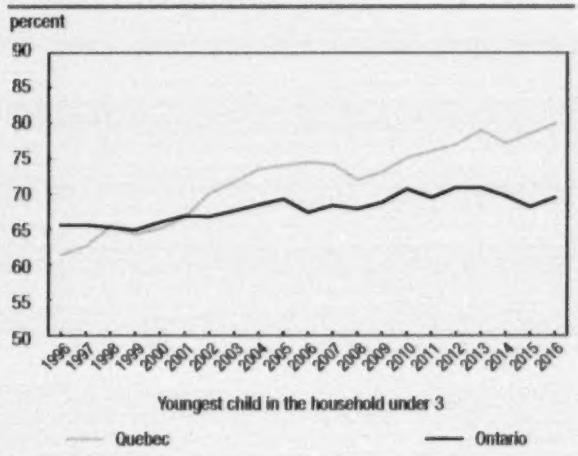
As a result, for the first time in 2003, the labour force participation rate of women in Quebec exceeded that of women in Ontario (78% versus 77%). That divergence widened in subsequent years such that the rate of female labour force participation was 6 percentage points higher in Quebec in 2016 (81%) than in Ontario (75%). Notably, the divergence between the labour force participation rates of women in Quebec and Ontario coincided with the divergence between the total fertility rates in these provinces beginning in the mid-2000s. It follows that the relative increase in the total fertility rate in Quebec corresponded to a relative increase in female labour force participation.

Chart 5
Total fertility rate and labour force participation of women aged 15 to 44, Quebec and Ontario, 1996 to 2016



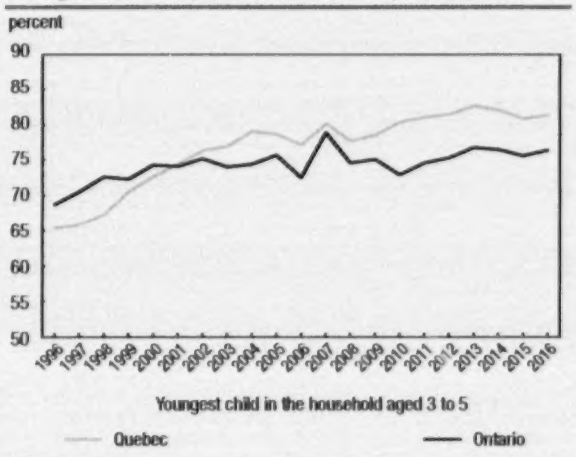
Note: Births to mothers whose age is unknown were prorated.
Source: Statistics Canada, Labour Force Survey, 1996 to 2016; Canadian Vital Statistics (Birth Database), 1996 to 2016 and Demography Division, Demographic Estimates Program.

Chart 6.1
Labour force participation rate of women aged 15 to 44 whose youngest child in the household was under the age of 3, Quebec and Ontario, 1996 to 2016



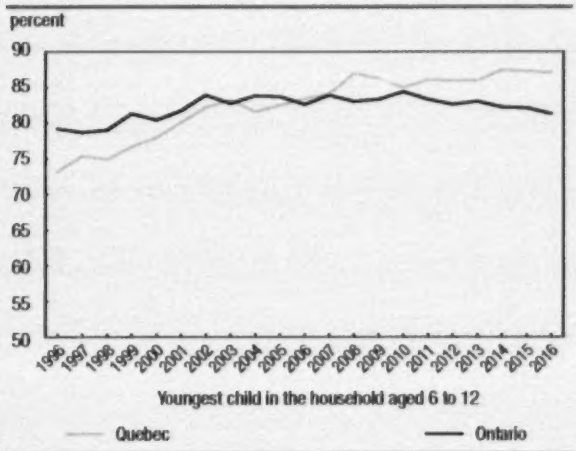
Source: Statistics Canada, Labour Force Survey, 1996 to 2016.

Chart 6.2
Labour force participation rate of women aged 15 to 44 whose youngest child in the household was between the ages of 3 and 5, Quebec and Ontario, 1996 to 2016



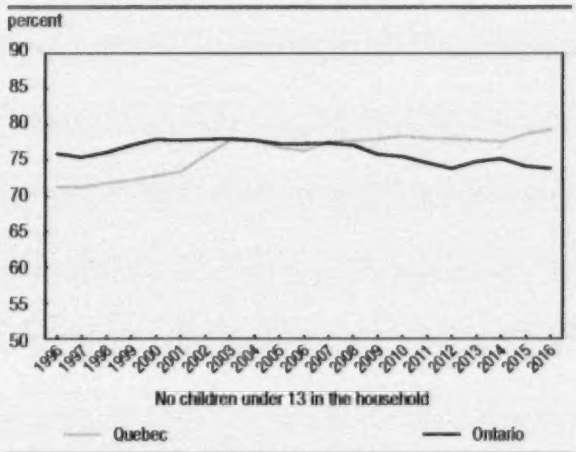
Source: Statistics Canada, Labour Force Survey, 1996 to 2016.

Chart 6.3
Labour force participation rate of women aged 15 to 44 whose youngest child in the household was between the ages of 6 and 12, Quebec and Ontario, 1996 to 2016



Source: Statistics Canada, Labour Force Survey, 1996 to 2016.

Chart 6.4
Labour force participation rate of women aged 15 to 44 with no children in the household under the age of 13, Quebec and Ontario, 1996 to 2016



Source: Statistics Canada, Labour Force Survey, 1996 to 2016.

Labour force participation increased faster among women with young children in Quebec

The recent increase in female labour force participation in Quebec, relative to Ontario, was driven by those whose youngest child in the household was under the age of 13, who therefore had a need for either pre-school child care or before- and after-school care (charts 6.1 to 6.4). Specifically, 60% of the increase in the number of women participating

in the labour market in Quebec between 1996 and 2016 occurred among those with a child under 13. More than half of that increase occurred among women whose youngest child in the household was under the age of 3.

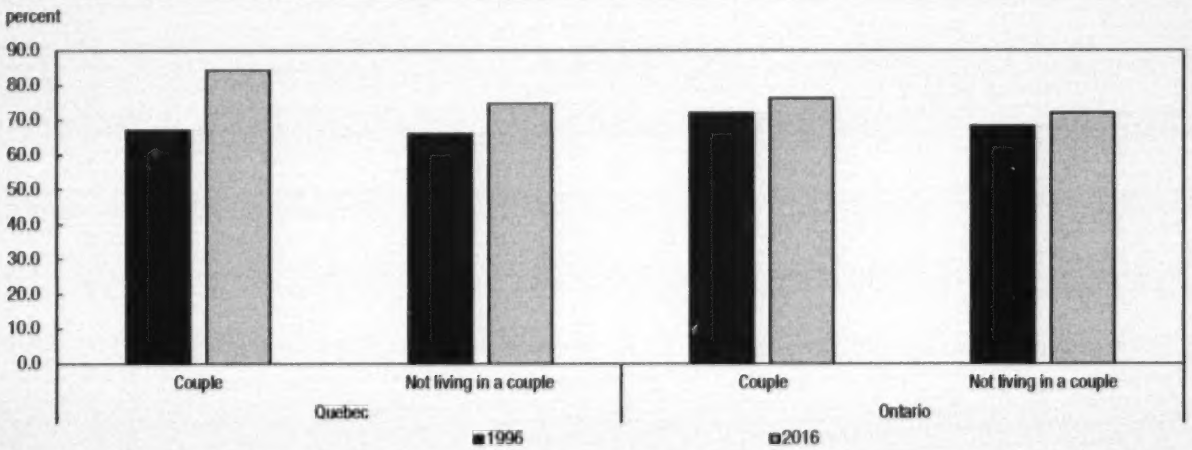
Quebec women whose youngest child in the household was under 3 saw the greatest increase in labour force participation between 1996 and 2016, at 19 percentage points (from 61% to 80%), followed by those whose youngest child was aged between 3 and 5, at 16 percentage points (from 65% to 81%), then by those whose youngest child was between 6 and 12, at 14 percentage points (from 73% to 87%). Over the same period, the labour force participation of Quebec women with no children under 13 increased by 8 percentage points (from 71% to 79%). Other research has shown that the increase in the labour force participation of Quebec women with no children in the household under 13 could partly be attributed to the enduring effects of the province's low-fee child care program.

The labour force participation of women in Ontario whose youngest child in the household was under 13 also increased to some extent between 1996 and 2016—albeit much less than the labour force participation of their counterparts in Quebec. For example, among women with children under 3, the rate of labour force participation grew by 4 percentage points in Ontario (from 66% to 70%), compared with 19 percentage points in Quebec (from 61% to 80%). At the same time, the labour force participation of women in Ontario with no children under 13 decreased slightly, by 2 percentage points (from 76% to 74%).

Most of the increase in the labour force participation of women with young children in Quebec was among women in couples without a university degree

The recent increase in the labour force participation of Quebec women whose youngest child in the household was under 13 occurred most notably among those in couples (by 17 percentage points), while it increased to a lesser extent among those who were not part of a couple (by 9 percentage points) (Chart 7). This finding likely reflects the fact that prior to the introduction of the low-fee child care program in 1997, child care subsidies were available to eligible low-income families in Quebec—among whom lone mothers are overrepresented.[26] There was also a refundable tax credit for child care with a variable rate that was higher for lower-income

Chart 7
Labour force participation rate of women aged 15 to 44 whose youngest child in the household was under the age of 13, by conjugal status, Quebec and Ontario, 1996 and 2016



Note: The no child under 13 category includes women with no children in the household.
Source: Statistics Canada, Census of Population, 1996, 2006 and 2016.

families.[27] As a result, the low-fee child care program primarily reduced the price of child care for Quebec mothers in couples who previously would not have qualified for child care subsidies because of their higher family incomes.

In Ontario, labour force participation increased similarly among women who were in a couple and those who were not (by 4 percentage points).[28]

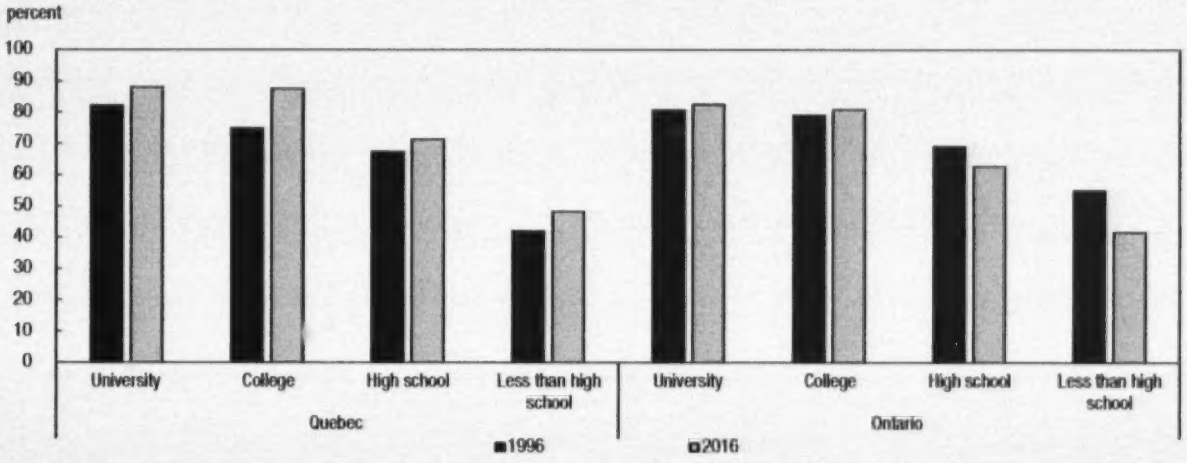
Among Quebec women whose youngest child in the household was under 13, labour force participation increased to a greater extent between 1996 and 2016 among those with less than a university degree than among those with more than a university degree, particularly when compared with parallel trends in Ontario.

Specifically, the labour force participation of Quebec women with less than a high school diploma increased by 6 percentage points, while the labour force participation of Ontario women decreased by 13 percentage points (Chart 8). Similarly, among women with a high school diploma, labour force participation increased by 4 percentage points in Quebec, but fell by 6 points in Ontario. A large gap in participation also developed among those who had a post-secondary certificate or diploma: Quebec women's participation increased by 13 points, while Ontario women's rate rose a more modest 2 points. Meanwhile, the labour force participation of women with a university degree in Quebec increased by 6 percentage points, while their counterparts in Ontario saw an increase of 2 points, the lowest relative increase (4 percentage points) between the two provinces.

These findings suggest that Quebec's family policies made it economically beneficial for women with lower levels of educational attainment—who tend to earn lower wages—to join and remain in the workforce. Illustrating the impact of the low-fee child care program in Quebec, the price index for child care and housekeeping services rose by 72% in Ontario between 1996 and 2016, compared with 28% in Quebec (Chart 9). The price for such services in Quebec even declined after 1999 when the program was expanded to all children under the age of 5, before increasing again after 2006.[29]

Given that child care subsidies were only available to low-income families in Quebec prior to the introduction of low-fee child care in 1997, the opposite might be expected—that is, for high- and middle-income families to see a larger price reduction in child care thereafter.[30] However, the low-fee child care program may actually be more accessible to liquidity-constrained low-income families compared with the previous regime since child care service providers are directly funded by the provincial government (resulting in parents making reduced contributions).[31]

Chart 8
Labour force participation of women aged 15 to 44 whose youngest child in the household was under the age of 13, by highest level of educational attainment, Quebec and Ontario, 1996 and 2016



Source: Statistics Canada, Labour Force Survey, 1996 and 2016.

In the past, child care expenses in Quebec were reduced through a refundable tax credit.[32]

Changes in wages and population characteristics do not explain the increase in the labour force participation of Quebec women

Among older women (aged 45 and over), most of whom would not have benefitted from Quebec's family policies, labour force participation also increased by 11 percentage points between 1996 and 2016 (from 34% to 45%). However, the labour force participation of older women in Ontario increased similarly by 10 percentage points between 1996 and 2016 (from 39% to 49%)—without a parallel increase in the labour force participation of younger women. These changes reinforce the notion that Quebec's family policies have had an impact on the labour force participation of women with children.

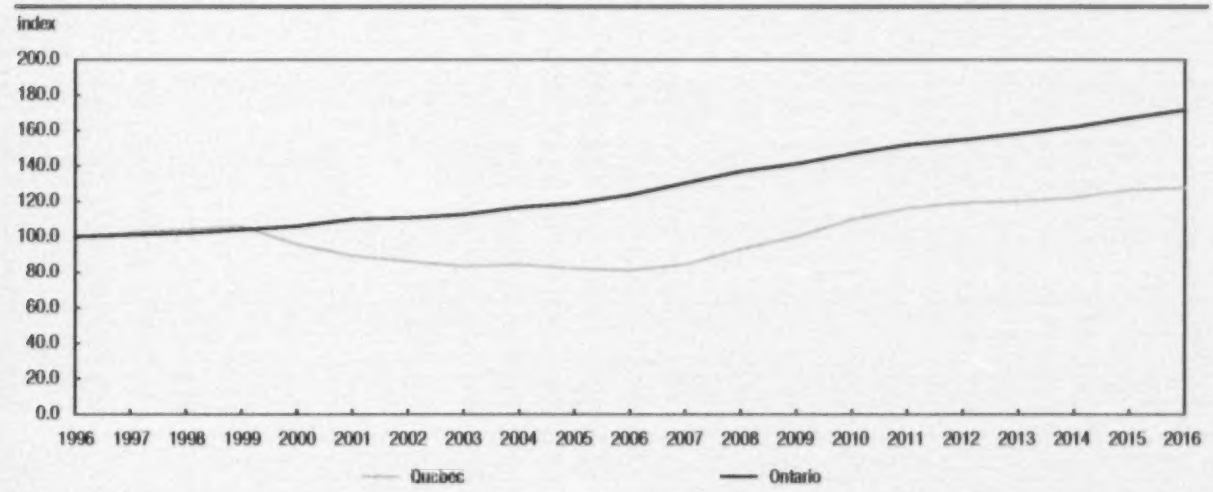
That said, it is also important to consider other factors that may have contributed to the relative increase in the labour force participation of women aged 15 to 44 since the mid-2000s. Possible factors include differences in population characteristics and differences in wage growth. Changes in population characteristics include differences in age structure, educational attainment and the immigrant population.

With respect to age structure, the labour force participation of young adults (aged 15 to 24) is often limited by their school attendance, and limited thereafter by their minimal work experience. For these reasons, a shift toward older ages within the 15-to-44 age group may correspond to greater labour force participation. From 1996 to 2016, however, the share of women in this age group who were aged 35 to 44 decreased by 3 percentage points in both Quebec (from 38% to 35%) and Ontario (from 36% to 33%).

Differences in educational attainment can also have an impact since individuals with higher levels of education tend to have higher levels of labour force participation than those with lower levels of education because they are considered more employable and the opportunity costs (i.e., foregone wages) of not doing paid work are greater. For these reasons, the increasing prevalence of university degrees is expected to be positively correlated with labour force participation. Between 1996 and 2016, the proportion of women with a university degree rose by 16 percentage points in Quebec (from 14% to 30%) and by 18 percentage points in Ontario (from 16% to 34%).

Foreign-born individuals tend to have lower rates of labour force participation than their Canadian-born counterparts. Although this disparity tends to decrease with duration in Canada as immigrants acquire Canadian work experience and their language proficiency improves, the

Chart 9
Consumer price index of child care and housekeeping services, Quebec and Ontario, 1996 to 2016 (1996=100)



Source: Statistics Canada, Consumer Prince Index (table 18-10-0005-01), 1996 to 2016.

proportion of foreign-born individuals in the population is expected to bring down the overall rate of labour force participation. That said, the proportion of immigrants rose faster in Quebec than in Ontario over the period. According to Census data, from 1996 to 2016, the proportion of immigrant women aged 15 to 44 increased by 8 percentage points in Quebec (from 9% to 17%), and by 3 percentage points in Ontario (from 25% to 28%).

The contribution of these compositional changes to the relative increase in female labour force participation in Quebec from 1996 to 2016 can be quantified using the Oaxaca–Blinder decomposition technique. From 1996 to 2016, the female labour force participation rate in Quebec among those aged 15 to 44 increased by 11 percentage points, from 70% to 81%. Over the same period, the female labour force participation rate in Ontario was little changed (from 74% to 75%). Results indicate that if Quebec and Ontario had had the same age structure, educational attainment and foreign-born population in 2016 as in 1996, female labour force participation would have increased by the same amount in Quebec (11 percentage points), and female labour force participation in Ontario would have decreased by a single percentage point.[33] Therefore, these compositional factors do not account for the divergent trajectories of female labour force participation in Quebec and Ontario.

Lastly, another possible factor affecting the labour force participation of these two groups of women is that wage growth was stronger in Quebec than in Ontario, giving women in Quebec a greater incentive to participate in the labour market. However, the real hourly wages of female workers increased at a similar pace in Quebec and in Ontario between 1997 and 2016. Specifically, the average hourly wages of female workers increased by 17% in Quebec (from $18.60 in 1997 to $21.83 in 2016) and by 13% in Ontario (from $20.16 to $22.82). Compositional and wage factors therefore do not account for the divergent trajectories of female labour force participation in Quebec and Ontario that have recently emerged.

Conclusion

Since the mid-2000s, trends in fertility rates and female labour force participation in Quebec and Ontario have diverged. Both the total fertility rate and the labour force participation rate of women aged 15 to 44 rose in Quebec vis-à-vis Ontario. In 2016, the total fertility rate was 1.59 children per woman in Quebec, compared with 1.46 children per woman in Ontario, and the rate of female labour force participation was 81% in Quebec, compared with 75% in Ontario. The relative increase in Quebec's total fertility rate thus occurred concurrently with the relative increase in the province's female labour force participation rate.

Quebec's higher total fertility rate largely reflects increased childbearing among women in their twenties. In turn, that pattern partly reflects the fact that women in their twenties are more likely to be part of a common-law couple in Quebec than in Ontario—stemming from greater social acceptance about living common law as an alternative to marriage in Quebec. Scandinavian-inspired family policies implemented in Quebec beginning in the late 1990s may also have resulted in increased fertility at younger ages insofar as they reduce the opportunity costs of having children and/or the price of child care, which in turn facilitate a better combination of earning and caring roles.

Most of the recent increase in the female labour force participation rate in Quebec, relative to Ontario, occurred among women for whom pre-school child care or before- and after-school care is most relevant—i.e., those with young children. The labour force participation of Quebec women whose youngest child was under 13 also increased among those with less than a university degree, suggesting that the province's family policies make it economically beneficial for those who would presumably earn lower wages to join and remain in the workforce.

Beyond Quebec's unique social context, there are other factors that may have played a role in the recent increase in female labour force participation in that province relative to Ontario. This study, however, demonstrates that wage growth was the same in Quebec and in Ontario, and that shifts in the population composition of these provinces (i.e., aging and the increasing prevalence of university degree holders and immigrants) do not explain the higher rates of female labour force participation in Quebec since 2003. This reinforces the view that family policies have encouraged mothers of young children in Quebec to participate in the labour market.

***Melissa Moyser** is a researcher in the Social and Aboriginal Statistics Division at Statistics Canada, and **Anne Milan** is chief of analysis in the Labour Statistics Division at Statistics Canada.*

Data sources, methods and definitions

Data sources

This article uses data from a variety of sources. Total fertility rates, age-specific fertility rates and completed fertility rates are calculated using the Canadian Vital Statistics Birth Database, an administrative survey that collects demographic information annually from all provincial and territorial registries of live births in Canada. The data presented here cover the period from 1926 to 2016.

Labour Force Survey (LFS) data are also used, covering the period from 1976 to 2016. The LFS is a monthly survey of approximately 56,000 households, which collects detailed information from all household members aged 15 and over regarding their labour force participation and employment or unemployment, sociodemographic characteristics and family relationships. Excluded from the survey's coverage are persons living on reserves and other Aboriginal settlements, full-time members of the Canadian Armed Forces, and the institutionalized population. Together, these groups represent less than 2% of the Canadian population aged 15 and over.

Although the LFS is also conducted in the territories, its data are excluded from this study since a different methodology is used there because of the challenges associated with conducting a survey in small and geographically dispersed communities. In addition, for the purposes of this study, the sample is restricted to women aged 15 to 44 and monthly data are annualized through averaging.

Census of Population data from 1996, 2006 and 2016 are used to examine the household living arrangements of women—whether they are married spouses, common-law partners or not part of a couple, including by immigrant status and visible minority status. Census data are also used for the proportion of immigrants in the population in 1996, as immigrant status was introduced in the LFS beginning in 2006.

Methods

In the last section of this paper, an Oaxaca–Blinder decomposition was used to analyze the joint impact of population composition with respect to age, education and nativity (i.e., foreign-born versus Canadian-born) on the labour force participation rate of women aged 15 to 44. This involved using annualized microdata from the 2016 LFS and regressing (with the ordinary least squares method) a binary indicator of labour force participation (where 1=yes and 0=no) on dummy variables representing age groups (15 to 19; 20 to 24; 25 to 29; 30 to 34; 35 to 39; and 40 to 44); holding a university degree (yes or no); and immigrant status (yes or no). The resulting regression coefficients were then multiplied by the means of the corresponding explanatory variables in 1996 and added to the intercept. Solving this equation yields the hypothetical rate of female labour force participation that would have been observed in 2016 had the population been equivalent to that in 1996 with respect to age, the prevalence of university degree holders and immigrants.

Definitions

Total fertility rate: The average number of children that a woman would have over the course of her reproductive life if she experienced the age-specific fertility rates observed in a particular calendar year. It is based on a compilation of the fertility experiences of many different cohorts of women in a given year. An advantage of the total fertility rate is that it is easily calculated and it is not affected by variations in population size or age structure, allowing for annual and provincial (and international) comparisons.

Age-specific fertility rate (or fertility rate): The number of live births per 1,000 women in a specific age group.

Completed fertility rate: The average number of children born to women belonging to the same birth cohort once they reach the end of their reproductive life. It is equal to the sum of the age-specific fertility rates of a given birth cohort.

Subsidized child care: Public financial assistance to parents intended to lower the cost of child care. In Quebec, subsidized child care takes the form of a reduced contribution, meaning that parents pay a reduced daily rate to participating child care providers, with the balance paid by the provincial government. Since April 22, 2015, an additional contribution applies to parents whose family income exceeds $50,920.

Labour force participation rate: The number of people in a given group who participated in the labour market (i.e., who were either employed or unemployed), expressed as a percentage of the population for that group.

Trends in fertility rates and labour force participation in the provinces and territories other than Quebec and Ontario

Variation in fertility and female labour force participation exists not only between Quebec and Ontario, but throughout Canada.

Among the provinces and territories, only Nunavut had a total fertility rate above replacement level (2.99 children per woman) in 2016. The total fertility rate was also relatively high in Saskatchewan (1.93), Manitoba (1.85) and the Northwest Territories (1.79). These provinces and territories are characterized by relatively larger Aboriginal populations, who, in turn, have higher fertility rates. In contrast, in 2016 the total fertility rate was lowest in British Columbia (1.40), and Newfoundland and Labrador and Nova Scotia (1.42 for each)—provinces characterized by older populations (Table 1).

A higher total fertility rate generally coincides with a lower average maternal age at first birth. Nationally, in 2016 the average age of first-time mothers was 29.2 years. Among the provinces and territories, British Columbia had the oldest average age of first-time mothers, at 30.3 years. Ontario was the only other province to have an average age of mother at first birth (29.8 years) that was above the overall age for Canada. The youngest average age of mothers at first birth was in Nunavut (22.4 years), followed by Saskatchewan (27.2 years). These patterns were similar for the average age at total births.

Labour force participation for women aged 15 to 44 also varied across the country. Historically, over the past 40 years, women in Prince Edward Island, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia have had higher participation rates than women in Newfoundland and Labrador, Nova Scotia, New Brunswick and Quebec. In 2016, however, Quebec had the highest female labour force participation rate among the provinces (81%), followed by the Maritime provinces. The rate was also higher in Saskatchewan (78%) than the national rate (77%). The lowest female participation rates were in Ontario and in British Columbia (75% for each). The rate was below that for Canada as a whole in Alberta, Newfoundland and Labrador, and Manitoba (76%).

Table 1
Total fertility rate, number of births and average age of mother at first and for all births, Canada, provinces and territories, 2016

Region of residence	Total fertility rate	Number of births	Average age of mother	
			At first birth	All births
	Children per woman	Thousands	Year	
Canada	**1.54**	**383.1**	**29.2**	**30.8**
Newfoundland and Labrador	1.42	4.4	27.9	29.5
Prince Edward Island	1.58	1.4	28.1	30.0
Nova Scotia	1.42	8.3	28.2	29.8
New Brunswick	1.55	6.6	27.5	29.1
Quebec	1.59	86.3	29.0	30.6
Ontario	1.46	140.4	29.8	31.3
Manitoba	1.85	16.9	27.6	29.6
Saskatchewan	1.93	15.6	27.2	29.1
Alberta	1.69	55.9	28.7	30.4
British Columbia	1.40	45.3	30.3	31.6
Yukon	1.62	0.4	29.2	30.9
Northwest Territories	1.79	0.6	27.8	29.5
Nunavut	2.99	0.9	22.4	26.4

Note: Births to mothers whose age is unknown were prorated.
Sources: Statistics Canada, Canadian Vital Statistics (Birth Database) and Demography Division, Demographic Estimates Program.

Notes

1. See Ahn and Mira (2002); Brewster and Rindfuss (2000); Brehm and Engelhardt-Wölfler (2015).
2. See McDonald (2000); McDonald (2006); Brehm and Engelhardt-Wölfler (2015).
3. See Ahn and Mira (2002); Sánchez-Barricarte and Fernández-Carro (2007); Brewster and Rindfuss (2000); Goldstein et al. (2009); Brehm and Engelhardt-Wölfler (2015).
4. See Diprete et al. (2003); Thévenon (2011).
5. See Krull and Trovato (2003).
6. See Gauthier (2007). According to Becker (1960) and Becker and Lewis (1973), parents derive satisfaction from both the quantity and "quality" of children. In the context of fertility decisions, parents trade-off between child quantity and quality: an increase in the number of children increases the total cost of parental investments in children, while an increase in parental investments in children raise the total cost of having an additional child.
7. See Hays (1996); McMahon (1995); Walzer (1998).
8. See Brandon (1999); Pahl (2005).
9. See Beaujot and Ravenera (2009); Mennino and Brayfield (2002).
10. In 2015, Quebec's universal, low-fee childcare program was fundamentally restructured, when parents' reduced contribution for childcare became tied to family income.
11. Since 2006, parental leave benefits for residents of Quebec have been administered through the Quebec Parental Insurance Plan (QPIP). The QPIP has lower eligibility criteria and higher benefit rates and maximum insurable earnings than those in Ontario. Specifically, the QPIP currently requires a minimum of $2,000 in insurable income (regardless of the number of hours worked) in the past 52 weeks or, if beneficiaries are unable to work and receive insurable earnings, up to the past 104 weeks. QPIP benefits range from 55% to 75% of maximum insurable earnings (up to $74,000 in 2018), depending on the duration of parental leave taken (up to 50 weeks). See Travail, Emploi et Solidarité sociale Québec (2018).
12. As of December 3, 2017, the Employment Insurance program was modified, including the introduction of extended parental benefits, allowing parents to receive benefits for up to 18 months, as opposed to 12 months, at a lower rate. Pregnant workers now have more flexibility and can start receiving maternity benefits up to 12 weeks before the expected date of childbirth, compared with 8 weeks previously.
13. See the section on Trends in fertility rates and labour force participation in the provinces and territories other than Quebec and Ontario for a brief overview of differences in total fertility rates between Canadian provinces and territories.
14. Another reason that Ontario was chosen as the reference group instead of the rest of Canada as a whole is that tracking family-related policy changes for a single province is more straightforward than doing so for an amalgam of provinces.
15. See Milan (2013).
16. The fertility rate of women aged 40 to 44 has also been increasing since the mid-1980s, while the fertility rate of women under the age of 20 has been decreasing since the mid-1970s. As a result, the fertility rate of women in their forties edged past that of women under 20 in 2014.
17. See Milan (2015).
18. These findings hold among visible minority and foreign-born women in their twenties. According to 2016 Census data, although visible minority women were less likely to be in couples than their non-visible minority counterparts in both Quebec (29% versus 41%) and Ontario (22% versus 32%), visible minority women in Quebec were more likely than their counterparts in Ontario to be in couples (29% versus 22%). In 2016, equivalent proportions of foreign-born and native-born women were in couples in Quebec (39% each). In comparison, foreign-born women in Ontario were more likely to be in couples than their native-born counterparts (32% vs. 27%). Nevertheless, a greater proportion of foreign-born women were in couples in Quebec than in Ontario (39% versus 32%).
19. At the same time, about 7 in 10 women in their thirties were part of a couple in both Quebec and Ontario. Compared with women in their thirties in 1996, this was largely unchanged for women in Quebec although there was a four percentage point drop for those in Ontario (from 73% to 69%).
20. See Huang et al. (2011); Cherlin (2004); Sassler (2004).
21. See Kerr et al. (2006).
22. See Wright (2016).
23. See Wright (2016); Laplante (2014); Le Bourdais and Lapierre Adamcyk (2004).
24. See Kerr et al. (2006).

25. Previous research demonstrates that when mothers in Quebec use the low-fee child care program for their preschool-age children, their labour force participation is increased both in this early period and after their children have entered school. This interpretation is supported by the finding that the labour force participation of Quebec women with children aged 13 or over in the household increased by 18 percentage points between 1996 and 2016 (from 71% to 89%), while the labour force participation of Quebec women with no children in the household increased by half that amount (by 9 percentage points, from 70% to 79%).
26. See Baker et al. (2008); Lefebvre and Merrigan (2008).
27. See Baker (2008).
28. In Ontario, more than 90% of women aged 15 to 44 with a child under 13 were in a couple in 2016, up from 88% in 1996. In Quebec, the share of women with children under 13 who were in a couple varied little over the period (87%).
29. The number of subsidized child care spaces grew relatively slowly from 76,000 in 1996 to 96,000 in 1999 (a period during which the program was available for 4-year-olds), and then more rapidly after that as the program was progressively expanded to include younger children. By 2008, the number of subsidized child care spaces was over 200,000 in Quebec. Data on the number of subsidized child care spaces in Quebec are available on the ministère de la Famille website (https://www.mfa.gouv.qc.ca/en/Pages/index.aspx).
30. See Lefebvre and Merrigan (2008).
31. See Lefebvre and Merrigan (2008).
32. Although the refundable tax credit for child care was higher for low-income families, parents were required to pay child care service providers upfront.
33. Given that the immigrant status variable was not available in the LFS prior to 2006 census data were used for the proportion of immigrants in 1996, including an adjustment which combines immigrants and non-permanent residents in order to approximate the LFS concept.

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